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The structural basis of cephalosporin formation in a mononuclear ferrous enzyme

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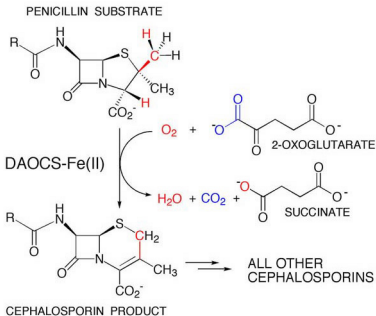
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Supplementary Figure 1



The ring-expansion reaction catalysed by DAOCS from *Streptomyces clavuligerus*. DAOCS has broad substrate specificity and can catalyse ring expansion in penicillins with various R-groups. The physiological substrate of DAOCS is penicillin N (R = δ -(D- α -aminoadipoyl)-, and the physiological product is deacetoxycephalosporin C or DAOC). In the present study, we used penicillin G (R = phenylacetyl-; product: phenylacetyl-7-aminodeacetoxycephalosporanic acid) and ampicillin (R = R-(2-amino)phenylacetyl-; product: cephalexin).